CLAIMS

What is claimed is:

1. A computer-implemented method for monitoring stock market information with investment risk, comprising the steps of:

finding a first data set comprising a top period T_T and a corresponding top volume in the historical data $MAP_{iD}(t_D)$ and $MAV_{iD}(t_D)$ of said stock market information;

finding a second data set comprising a bottom period T_B and a corresponding bottom volume in the historical data $MAP_{iD}(t_D)$ and $MAV_{iD}(t_D)$ of said stock market information;

organizing a training event set **E** from said first data set and said second data set, each training event E in said training event set **E** comprising a training pair response to a price ratio of said top period T_T to adjacent bottom period T_B;

training a neural network to learn said training event set **E** in a supervised learning manner to obtain a gray coefficient $\hat{g} = [\hat{a}, \hat{b}]$;

determining whether current volume falls within a volume range defined by said gray coefficient $\hat{g} = [\hat{a}, \hat{b}]$ when said top period T_T is confirmed on current $MAP_{iD}(t_D)$; and

submitting an indication to indicate an appearance of a bear bottom in said stock market if current volume fell within said volume range.

2. A computer-implemented method for monitoring stock market information with investment risk, comprising the steps of:

finding a first data set comprising a top period T_T and a corresponding top volume in the historical data $MAP_{iD}(t_D)$ and $MAV_{iD}(t_D)$ of said stock market information;

finding a second data set comprising a bottom period T_B and a corresponding bottom volume in the historical data $MAP_{iD}(t_D)$ and $MAV_{iD}(t_D)$ of said stock market information;

organizing a training event set **E** from said first data set and said second data set, each training event E in said training event set **E** comprising a training pair response to a price ratio of said bottom period T_B to adjacent top period T_T;

training a neural network to learn said training event set **E** in a supervised learning manner to obtain a gray coefficient $\hat{g} = [\hat{a}, \hat{b}]$;

determining whether current volume falls within a volume range defined by said gray coefficient $\hat{g} = [\hat{a}, \hat{b}]$ when said bottom period T_B is confirmed on current $MAP_{iD}(t_D)$; and

submitting an indication to indicate an appearance of a bull top in said stock market if current volume fell within said volume range.

3. The method of claim 1 or 2, wherein said $MAP_{iD}(t_D)$ is *i*-day moving average trend of daily price $\mathbf{P}_D(t_D)$.
4. The method of claim 1 or 2, wherein said $MAV_{iD}(t_D)$ is *i*-day moving average trend of daily volume $\mathbf{V}_D(t_D)$.
5. The method of claim 1 or 2, wherein the step of finding said first data set comprising said top period T_T and said corresponding top volume includes the steps of:
   a) based on the trend of *i* day moving average $MAP_{iD}(t_D)$, getting a time frame T on a time axis t_D, wherein MAP_{72D} or MAP_{6M} or MAP_{12M} are convex curves and said $MAP_{iD}(t_D)$ comprises at least a local maximum Z_m and a local minimum z_n in $t_D \in T$;
   b) determining a value α to obtain said top period T_T, such

$$\{ MAP_{iD} \mid MAP_{iD}(t_D) \geq \alpha \text{ , } t_D \in T_T \text{ and } MAP_{iD}(t_D) < \alpha \text{ , } t_D \notin T_T \}$$

   c) according to said top period T_T, obtaining said corresponding top volume from said $MAV_{iD}(t_D)$.
6. The method of claim 5, wherein said time frame T is selected from 7 months to 12 months.
7. The method of claim 5, wherein said time frame T is perfectly selected from 30 weeks to 46 weeks.
8. The method of claim 5, wherein said *i* day moving average $MAP_{iD}(t_D)$ is perfectly

selected a group of MAP_{3D} 、 MAP_{6D} 、 MAP_{12D} or MAP_{24D}.

9. The method of claim 5, wherein said top period T_T is perfectly a period from 7 days to 21 days.

10. The method of claim 5, wherein said value α is one of local minimums z_n in said step a).

11. The method of claim 1 or 2, wherein the step of finding said second data set comprising said bottom period T_B and said corresponding bottom volume includes the steps of:

a) based on the trend of *i* day moving average $MAP_{iD}(t_D)$, getting a time frame T on a time axis t_D, wherein MAP_{72D} or MAP_{6M} or MAP_{12M} are concave curves and said $MAP_{iD}(t_D)$ comprises at least a local maximum Z_m and a local minimum z_n in $t_D \in T$;

b) determining a value β to obtain said bottom period T_B, such

$$\{ MAP_{iD} \mid MAP_{iD}(t_D) \leq \beta \text{ , } t_D \in T_B \text{ and } MAP_{iD}(t_D) < \beta \text{ , } t_D \notin T_B \}$$

c) according to said bottom period T_B, obtaining said corresponding bottom volume from said $MAV_{iD}(t_D)$.

12. The method of claim 11, wherein said time frame T is selected from 7 months to 12 months.

13. The method of claim 11, wherein said time frame T is perfectly selected from 30 weeks to 46 weeks.

14. The method of claim 11, wherein said *i* day moving average $MAP_{iD}(t_D)$ is perfectly selected a group of MAP_{3D} 、 MAP_{6D} 、 MAP_{12D} or MAP_{24D}.

15. The method of claim 11, wherein said top period T_T is perfectly a period from 7 days to 21 days.

16. The method of claim 11, wherein said value α is one of local maximums Z_m in said step a).

17. The method of claim 1, wherein said indication represents current price fell into next bottom period T_B.

18. The method of claim 2, wherein said indication represents current price fell into next top period T_T.